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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,132	02/13/2001	Hisatake Okamura	36856.404	9836

7590 05/27/2003  
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EXAMINER

JONES, STEPHEN E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/782,132		OKAMURA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Stephen E. Jones		2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5, 11 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10 and 12-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                             | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9, 12</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Election/Restrictions*

Claims 5, 11, and 17-20 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

Also, Applicant argued the withdrawal by examiner of Claim 11 and referred to the paragraph bridging pages 15 and 16 of the present specification as teaching that the elected embodiment includes the claimed metallic film is provided "partially on the main surface". However, the paragraph bridging pages 15 and 16 of the specification merely indicates that the metallic film is formed in a partial area on the substrate which is clearly not the same as the claim language which indicates that the film is only partially on the substrate which implies that part of the film is disposed elsewhere.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-10, 12, 14, and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Takahashi et al. of record.

Takahashi et al. (Figs. 3C, 3B, and 5) discloses a dual mode resonator including: a dual mode electrode can be formed as a microstrip (Fig. 3C) (Claim 6) or a stripline (Fig. 3B) (Claim 7) on a rectangular substrate (Claim 10); Fig. 5 teaches that the

electrode can be formed as a rectangular shape having a rectangular open portion in its middle (Claim 12); input/output electrodes couple the long portions of the dual mode electrode (Claims 1-4 and 16); the dual modes are orthogonal (e.g. see Col. 6, lines 57-58) (Claim 8); the two modes have different resonant frequencies (see Col. 19, lines 19-24) (Claim 9); and inherently the mode characteristics recited in Claim 14 are included in the Takahashi structure, especially since the Takahashi structure is the same as the present invention structure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (of record).

Takahashi et al. teaches a resonator as described above. Also, Takahashi teaches that the resonant frequency of the modes is affected by the length of the parallel lines and the coupling strength between the lines (i.e. the resonant frequency is affected by the distance between the parallel lines and the length of the lines which are formed by the opening/gap in the ring resonator). However, Takahashi et al. does not explicitly teach that the resonator is made of copper (Claim 13), or that the resonant frequency of the modes are substantially equal to each other (Claim 15).

It would have been considered obvious to one of ordinary skill in the art to have made the resonator of copper instead of the generic conductive microstrip/stripline material in the Takahashi et al. structure, because copper is a well-known conductive material for forming stripline/microstrip resonators.

Also, it would have been considered obvious to one of ordinary skill in the art to have selected the resonant frequencies of the two modes to have been equal, especially since Takahashi teaches that the resonant frequencies can be determined by the sizing of the device, and the pre-selection of the resonant frequency of the modes being equal would have been a mere selection of the operational frequency of the device based on the sizing of the device parameters to provide the desired filtering characteristics.

***Response to Arguments***

6. Applicant's arguments filed 3/12/03 have been fully considered but they are not persuasive.

Applicant argues that Takahashi does not teach that the metallic film has an opening for coupling the two resonant modes.

Applicant's arguments are not persuasive. The Takahashi structure is the same as the presently claimed invention, thus inherently the opening in the metallic film would result in some mode coupling in the same manner as the present invention. Also, Takahashi teaches that the dual-mode resonator functions as a two-stage filter in a similar manner as the conventional ring resonator (21)(i.e. Fig. 2) (see Col. 19, lines 14-24). The Fig. 2 ring resonator clearly shows a stub portion situated which is orthogonal to the orthogonal input/output (22, 24) and thus inherently couples the modes as is conventional. Furthermore, in Claim 1, the phrase "for coupling two resonance modes" is merely an intended use limitation which is not normally given patentable weight since only the final product is patentable in an apparatus claim.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

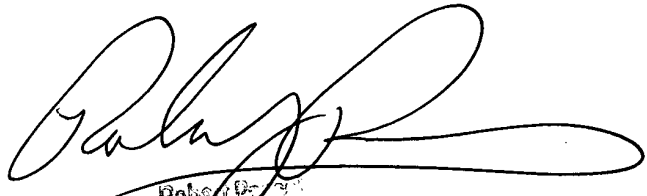
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 703-305-0390. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 703-308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6251 for regular communications and 703-308-6251 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SEJ  
May 21, 2003



Robert J. Pascal  
Supervisor  
703-308-4909